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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-------------------------------|-------------|----------------------|---------------------|------------------|
| 10/668,206 | 09/24/2003 | Hong-Jae Shin | P24304 | 1601 |
| 7055 | 7590 | 11/16/2004 | EXAMINER | |
| GREENBLUM & BERNSTEIN, P.L.C. | | | TRAN, THUY V | |
| 1950 ROLAND CLARKE PLACE | | | ART UNIT | |
| RESTON, VA 20191 | | | PAPER NUMBER | |

2821
DATE MAILED: 11/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|---|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/668,206 | SHIN ET AL. | |
| | Examiner | Art Unit | |
| | Thuy V. Tran | 2821 |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11 and 12 is/are rejected.
- 7) ☒ Claim(s) 1-10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This is a response to the Applicants' filing on September 24th, 2003. In virtue of this filing, claims 1-12 are currently presented in the instant application.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Inventorship

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Drawings Objections

3. The drawings are objected to because Figs. 1-4 are not labeled correctly.

4. Figures 1-4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not

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accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections/ Minor Informalities

5. Claims 1-2 and 4-11 are objected to because of the following informalities:

(Applicants are noted that the following suggested corrections must be seriously considered and the claims must be corrected correspondingly in order to clearly define the claimed invention).

Claim 1, line 5, "a" (second occurrence) should be changed to --the--;

Claim 2, line 1, --each of-- should be inserted between "wherein" and "the";

Claim 2, line 2, "unit" should be changed to --units--; and "further" should be deleted;

Claim 4, line 2, --further-- should be inserted between "circuit" and "comprises";

Claim 4, line 3, "a scan output unit" should be deleted;

Claim 4, line 4, "with respect" should be deleted;

Claim 4, line 5, "the" should be changed to --each--;

Claim 4, line 8, --corresponding-- should be inserted between "the" and "scan";

Claim 5, line 1, --each of-- should be inserted between "wherein" and "the";

Claim 5, line 2, "unit" should be changed to --units--;

Claim 5, line 3, ", its" should be changed to --having an--; and "being" should be deleted;
and --an end of-- should be inserted between "to" and "the";

Claim 5, line 4, "end" should be deleted;

Claim 5, line 5, ", its" should be changed to --having--; and "being" should be deleted;

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Claim 5, line 6, “its” should be deleted; and “being” should be deleted; and --the end of-- should be inserted between “to” and “the” (second occurrence);

Claim 5, line 7, “end” should be deleted;

Claim 5, line 8, “, its one” should be changed to --having an--; and “being” should be deleted; and --an end of-- should be inserted between “to” and “the”;

Claim 5, line 9, “end” (first occurrence) should be deleted; “its” should be deleted; “being” should be deleted; and “the” (second occurrence) should be changed to --an--;

Claim 5, line 11, “the” (first occurrence) should be changed to --an--;

Claim 5, line 13, “the” (first occurrence) should be changed to --an--;

Claim 5, line 15, “the” should be changed to --a--;

Claim 5, line 17, “the” should be changed to --a--;

Claim 6, line 2, “the” (first occurrence) should be changed to --a--;

Claim 6, line 4, --a-- should be inserted between “to” and “data”;

Claim 6, line 6, “the” (second occurrence) should be deleted;

Claim 6, line 8, “the” (first occurrence) should be changed to --an--;

Claim 6, line 9, --corresponding-- should be inserted between “the” and “scan” (second occurrence);

Claim 7, line 4, “the” (second occurrence) should be changed to --an--;

Claim 7, line 5, “its” should be changed to --a--;

Claim 7, line 6, “the” (third occurrence) should be changed to --an--;

Claim 7, line 8, “the” (first occurrence) should be changed to --an--; and --of each of the XNOR gates-- should be inserted between “end” and “is”;

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Claim 7, line 9, "its" should be changed to --a--;

Claim 8, line 2, --further-- should be inserted between "circuit" and "comprises";

Claim 8, line 3, "a data output unit" should be deleted;

Claim 8, line 5, "the" (first occurrence) should be changed to --each--;

Claim 8, line 9, replace "to the" with --the control signal PWM to the corresponding--;

Claim 9, line 1, --each of-- should be inserted between "wherein" and "the";

Claim 9, line 2, "unit" should be changed to --units--;

Claim 9, line 6, --corresponding-- should be inserted between "the" (first occurrence) and "common";

Claim 10, line 1, --wherein each of the data output units-- should be inserted between "," and "further";

Claim 10, "comprising" should be changed to --comprises--;

Claim 10, line 2, --corresponding-- should be inserted between "the" and "common"; and

Claim 11, line 4, "the" (first occurrence) should be changed to --a--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

7. Claims 11-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 11, the recitation “the step of maintaining, in a high impedance state, the common cathode lines ... with gray level of displayed pixel data” in lines 4-9 renders the claim indefinite since it is confusing and not clear how the claimed process/method of driving the OLED panel is defined. Clearly defining each step for a proper characterization of the claimed method is suggested.

Claim 12 is also rejected under 35 U.S.C. 112, 2nd paragraph since it is dependent on claim 11.

Allowable Subject Matter

8. Claims 1-10 would be allowed. Note that claims 1-2 and 4-10 must be corrected to overcome the objections set forth in this Office Action for allowance.

9. The following is a statement of reasons for the indication of allowable subject matter:

Prior art fails to disclose or fairly suggest an OLED panel driving apparatus comprising a data driving circuit connected to the plurality of common anode lines, and having a plurality of data output unit selectively connecting each of the common anode lines to a constant current source or a high impedance terminal HIZ, and a scan driving circuit connected to the plurality of common cathode lines, and having a plurality of scan output unit selectively connecting each of the common cathode lines at least to a high impedance terminal HIZ or a grounding earth, in combination with the remaining claimed limitations as called for in independent claim 1 (claims 2-10 would be allowed since they are dependent on claim 1).

Remarks on claims 11 and 12

10. Claims 11-12 are not being provided with either rejection(s) over art or with indicated allowable subject matter since they are defective and not clearly defined.

Citation of relevant prior art

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Prior art LeChevalier (Pub. No.: 2004/0085086 A1) discloses a control boost current method and apparatus.

Prior art LeChevalier (Pub. No.: 2004/0004590 A1) discloses a method and system for adjusting pre-charge for consistent exposure voltage.

Prior art LeChevalier (Pub. No.: 2003/0173904 A1) discloses a pre-charge voltage adjusting apparatus and method.

Prior art LeChevalier (Pub. No.: 2003/0169241 A1) discloses a method and system for ramp control of pre-charge voltage.

Prior art LeChevalier (Pub. No.: 2003/0156101 A1) discloses a control boost current method and apparatus.

Prior art LeChevalier (Pub. No.: 2003/0151570 A1) discloses a control boost current method and apparatus.

Prior art Juang (U.S. Patent No. 6,366,116) discloses a programmable driving circuit.

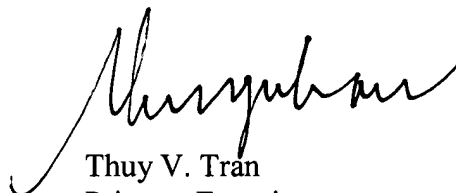
Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuy V. Tran whose telephone number is (571) 272-1828. The examiner can normally be reached on M-F (8:00 AM -5:00 PM).

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‘ If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thuy V. Tran
Primary Examiner
Art Unit 2821

11/14/2004